

Claims

We claim:

5

1. A method for deploying a graphical program on a portable computing device, the method comprising:

converting the graphical program to an executable that can be executed by the portable computing device;

10 transferring the executable to the portable computing device; and
executing the executable on the portable computing device.

2. The method of claim 1,

15 wherein the graphical program is initially represented as a plurality of data structures that specify the operation of the graphical program;

wherein said converting the graphical program to an executable that can be executed by the portable computing device comprises converting the graphical program to executable code that can be executed by the portable computing device.

20 3. The method of claim 1,

wherein the portable computing device comprises a personal digital assistant (PDA) device.

4. The method of claim 1, further comprising:

25 creating the graphical program prior to said converting.

5. The method of claim 1,

wherein the graphical program comprises a plurality of interconnected nodes which visually indicate functionality of the graphical program.

6. The method of claim 1,
5 wherein the executable includes functionality that corresponds to functionality of the graphical program;

wherein said executing the executable includes performing the functionality of the graphical program.

10 7. The method of claim 1, wherein the graphical program includes portions that cannot execute natively on the portable computing device;

wherein said converting the graphical program to an executable comprises:

examining the graphical program to determine said portions that cannot execute natively on the portable computing device;

15 incorporating program instructions into the executable in response to said examining;

wherein said incorporated program instructions enable said portions to execute on the portable computing device.

20 8. The method of claim 1, wherein the graphical program includes one or more user interface elements that cannot be natively displayed on the portable computing device;

wherein said converting the graphical program to an executable comprises:

25 incorporating program instructions into the executable to enable display of said one or more user interface elements on the portable computing device.

9. The method of claim 1, wherein the graphical program includes one or more data types that cannot be natively handled on the portable computing device;

wherein said converting the graphical program to an executable comprises:

incorporating program instructions into the executable to enable handling said one or more data types on the portable computing device.

5 10. The method of claim 1, wherein the graphical program includes one or more math functions that cannot be natively performed on the portable computing device;

wherein said converting the graphical program to an executable comprises:

incorporating program instructions into the executable to enable performance of the one or more math functions on the portable computing device.

10

11. The method of claim 1, wherein the graphical program is designed to be executed by a graphical program execution engine;

wherein the portable computing device does not include a graphical program execution engine.

15

12. The method of claim 1, wherein the graphical program is designed to be executed by a software execution engine;

wherein the portable computing device does not include a software execution engine;

20

wherein said converting the graphical program to an executable comprises:

examining the graphical program to determine portions that require functionality of the software execution engine;

25 incorporating program instructions into the executable in response to said examining, wherein said incorporated program instructions enable said portions to execute on the portable computing device without use of the software execution engine.

13. The method of claim 1, wherein the portable computing device is coupled to a computer system;

wherein said executing the executable on the portable computing device includes invoking execution of at least one graphical program on the computer system.

14. The method of claim 1,

5 wherein said converting the graphical program to an executable that can be executed by the portable computing device comprises:

converting the graphical program into a text-based program; and

compiling the text-based program to produce the executable code that can be executed by the portable computing device.

10

15. The method of claim 1, further comprising:

displaying execution information on a display device of a second computing device in response to said executing;

15 wherein the second computing device is coupled to the portable computing device through one of a wired or wireless medium;

wherein the execution information is useable in debugging the graphical program.

16. The method of claim 15, further comprising:

receiving user input to the second computing device to debug the execution.

20

17. A system for deploying a graphical program on a portable computing device, the system comprising:

a computer system including:

25 a processor storing program instructions;

a memory medium that stores the graphical program;

a portable computing device;

wherein the processor of the computer system is operable to execute the program instructions to:

convert the graphical program to an executable that can be executed by the portable computing device;

5 transfer the executable to the portable computing device;

wherein the portable computing device is operable to execute the executable.

18. The system of claim 17,

wherein the portable computing device comprises a personal digital assistant
10 (PDA) device.

19. A method for executing a graphical program on a portable computing device, the method comprising:

storing a first graphical program on the portable computing device, wherein the
15 first graphical program is configured to invoke execution of a second graphical program;

storing the second graphical program on a second computing device;

executing the first graphical program on the portable computing device; and

invoking execution of the second graphical program on the second computing
device in response to said executing.

20

20. The method of claim 19, wherein the second computing device is coupled to the portable computing device through a wireless medium.

21. A method for executing a graphical program on a portable computing
25 device, wherein the graphical program comprises a plurality of interconnected nodes which visually indicate functionality of the graphical program, the method comprising:

storing a first portion of the graphical program on the portable computing device, wherein the first portion of the graphical program is configured to invoke execution of a second portion of the graphical program;

storing a second portion of the graphical program on a second computing device;

5 executing the first portion of the graphical program on the portable computing device; and

invoking execution of the second portion of the graphical program on the second computing device in response to said executing.

10 22. A method for remote debugging of a graphical program on a portable computing device, wherein the graphical program comprises a block diagram, wherein the block diagram comprises a plurality of interconnected nodes which visually indicate functionality of the graphical program, the method comprising:

executing the graphical program on the portable computing device;

15 displaying the block diagram on a display device of a second computing device, wherein the second computing device is coupled to the portable computing device through one of a wired or wireless medium;

displaying execution information on the block diagram displayed on the display device in response to said executing the graphical program on the portable computing
20 device, wherein the execution information is useable in debugging the graphical program.

23. The method of claim 22, further comprising:

converting the graphical program to an executable that can be executed by the portable computing device prior to said executing the graphical program on the portable
25 computing device; and

transferring the executable to the portable computing device;

wherein said executing the graphical program on the portable computing device comprises executing the executable on the portable computing device.

24. The method of claim 22,
wherein the second computing device comprises a desktop computer system.

5 25. The method of claim 22, further comprising:
receiving user input to the second computing device to debug the graphical
program.

10 26. The method of claim 25,
wherein said debugging the graphical program comprises performing one or more
of:
setting break points in the graphical program;
performing execution highlighting for the graphical program.

15